

Notice of Allowability

Application No.

10/809,989

Examiner

Anita K. Alanko

Applicant(s)

HORNE, DAVID HUGHES

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/18/07 amdf.
2. ☒ The allowed claim(s) is/are 7.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 6/14/07.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Anita K. Alanko
Anita K Alanko
Primary Examiner
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EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with K.C. Cornaby on June 14, 2007.

The composition of SUPER-CORR B and 1006 CONTAC has been added to both the specification and to the claims. The basis for this amendment is found in the MSDS statements that are dated prior to the effective filing date of the present invention. The chemical composition has been taken from the CAS registry numbers that are cited on the MSDS statement for the organic barium compound, synthetic oil and the butyl cellosolve in 1006 CONTAC.

The application has been amended as follows:

PROPOSED EXAMINER'S AMENDMENT

In the specification, amend paragraph [0020] as follows:

[0020]

TABLE II

Metal Service	Recommended CPC(s)
All structural metals including all metals listed in Table I	SUPER CORR-A or B; Lektrotech, Inc, 4302 Henderson Boulevard Suite 114, Tampa, Florida 33629, P.O. Box 18566 Zip 33679, (813) 254-1380; or 1006 CON-TAC; International Lubricants and Fuel Consultants (ILFC), 521 Quantum Road, Rio Rancho, New Mexico, 87124, (505) 892-1666; Both of these CPCs conform to MIL-L-87177A Grade B and have been tested in lab and field tests with excellent corrosion preventive results.

The composition of SUPER CORR-B is 80-98 weight percent 1,1-dichloro-1-fluoroethane, 1-5 weight percent oxygenated hydrocarbon, and 1-5 weight percent carbon dioxide propellant. The composition of 1006 CONTAC is less than 10 weight percent barium dinonylnaphthalenesulfonate, a homopolymer of 1-decene, 2-butoxy-1-ethanol, and ethyl acetate.

Amend the claim as follows:

7. (Currently amended) A metal surface treatment to increase strength, flexibility and fatigue life of a metal[s], and to protect metal-to-metal bonds at the apexes of cracks, scratches and gouges on the surface of the metal[s], comprising the steps in the following order of:

(a) cleaning the surface of the metal to remove mill scale, soils, oils, corrosion products and previous coatings;

(b) removing moisture from said apexes;

(c) applying a metal etch to the surface of the metal; [and]

(d) rinsing and drying said metal surface; and

~~[(d)]~~(e) applying a liquid corrosion preventative compound to said etched surface, whereby the strength, flexibility, and fatigue life of the metal are increased relative to a metal surface that has not been treated with steps (a) through (e).

wherein said liquid corrosion preventative compound has a surface tension of less than 30 dynes/cm and has a composition that comprises either

(i) 80-98 weight percent 1,1-dichloro-1-fluoroethane, 1-5 weight percent oxygenated hydrocarbon, and 1-5 weight percent carbon dioxide propellant, or

(ii) less than 10 weight percent barium dinonylnaphthalenesulfonate, a homopolymer of 1-decene, 2-butoxy-1-ethanol, and ethyl acetate.

The following is an examiner's statement of reasons for allowance: the prior art fails to teach or suggest a metal surface treatment to increase strength, flexibility and fatigue life of a metal, and to protect metal-to-metal bonds at the apexes of cracks, scratches and gouges on the surface of the metal, comprising the steps in the following order of:

- (a) cleaning the surface of the metal to remove mill scale, soils, oils, corrosion products and previous coatings;
- (b) removing moisture from said apexes;
- (c) applying a metal etch to the surface of the metal;
- (d) rinsing and drying said metal surface; and
- (e) applying a liquid corrosion preventative compound to said etched surface, whereby the strength, flexibility, and fatigue life of the metal are increased relative to a metal surface that has not been treated with steps (a) through (e),

wherein said liquid corrosion preventative compound has a surface tension of less than 30 dynes/cm and has a composition that comprises either

- (i) 80-98 weight percent 1,1-dichloro-1-fluoroethane, 1-5 weight percent oxygenated hydrocarbon, and 1-5 weight percent carbon dioxide propellant, or
- (ii) less than 10 weight percent barium dinonylnaphthalenesulfonate, a homopolymer of 1-decene, 2-butoxy-1-ethanol, and ethyl acetate, as in the context of claim 7.

The closest prior art, Lovell U.S. Patent No. 4,298,635, discloses to treat a metal surface including cleaning to remove mill scale, impregnation of the pores with oil, and then to apply a

protective resin. However, there is no suggestion to use the combination of steps (a)-(e) in the order cited. Still further, applicant has shown unexpected results of extended life (see specification at paragraph [0027]) in that metals treated with only the corrosion preventative compound failed after 27,000 cycles, compared to metals treated with the cited method that fail after a minimum of 100,000 cycles or greater. The affidavits also discuss the unexpected results of using the combination of an etch and corrosion preventative compound of SUPER CORR-B or 1006 CONTAC, as in the context of claim 7. Therefore, the combination of steps of claim 7 are not suggested or disclosed by the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art shows methods of surface treatment with corrosion preventative compounds.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita K. Alanko whose telephone number is 571-272-1458. The examiner can normally be reached on Mon-Fri until 2:30 pm (Wed until 11:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Anita K. Alanko

Anita K Alanko
Primary Examiner
Art Unit 1765